



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,567	06/20/2003	Graham Hume	PINE-001	9640
7590 WAGNER, MURABITO & HAO LLP Third Floor Two North Market Street San Jose, CA 95113			EXAMINER CROUSE, BRETT ALAN	
			ART UNIT 1774	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/16/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/600,567	HUME, GRAHAM	
	<b>Examiner</b> Brett A. Crouse	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 06 September 2006.

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-9 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_.  
\_\_\_\_\_

## DETAILED ACTION

### *Miscellaneous*

After a review of the presently claimed invention, rejections of record, and applicant's remarks, the rejections of record prior to those as set forth in this office action are withdrawn.

### *Claim Rejections - 35 USC § 102*

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Edwards, US 1,778,147 herein after known as Edwards.

Edwards teaches:

As to claims 1 and 2:

Page 1, lines 45 – 84, teach a wood pulp suspension in water to which gilsonite and red gum are added. The passage further teaches preparing a sodium tetraborate solution adding the solution to the wood pulp, gilsonite, and red gum and further adding calcium chloride to form calcium borate which precipitates thus creating the particles of the slurry and simultaneously introducing the water based slurry to said ligneous material. It is noted that claim 1 of the instant invention requires only the adding and introducing steps be performed separately.

Page 1, lines 6-10, teach that gilsonite can act as a binder and red gum can act to impart rigidity. The passage also equates gums and resins in imparting rigidity. This is held to meet the limitation of adding an adhesive to the ligneous (wood pulp) material.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Quinn, US 1,939,082 hereinafter known as Quinn as

evidenced by "Borates as Multi-Function Cleaning Agents",  
(<http://www.borax.com/detergents/intro.html>).

Quinn teaches:

Page 1, lines 1-4, teach a fireproof fiber board and method of manufacturing the same.

Page 2, lines 60-91, teach a sizing agent preferably of colloidal asphalt and clay which will prevent migration of the fireproofing material. The use of colloidal asphalt is held to teach an adhesive to the ligneous material.

Page 2, lines 59-70, teach wood as a suitable fibrous material. The passage also teaches refining the wood sludge in the presence of the fireproofing agent.

Page 2, lines 93-105, teach a separate addition of the sizing agent (adhesive) to the fiber and fireproofing agent sludge. The passage further teaches that the pH of the fireproofing solution should be 5.2 to cause precipitation of the sizing material onto the fibers.

Page 2, lines 16-42, teach that a large variety of fireproofing salts can be used, including borax and boric acid. It is held that one of ordinary skill in the art would immediately envisage borax as disodium tetraborate in any of its hydration states as being suitable borax.

In the alternative:

In the alternative if it is found that the lack of recitation of the creation of a boron salt solution slurry from boric acid with explicit recitation of borax pentahydrate renders the reference non-anticipatory, it would have obvious to one of ordinary skill in the art at the time of invention by applicant to select the borax of Quinn from any of the hydration states of borax, including pentahydrate, with the expectation of success in forming a fireproofing solution having

Art Unit: 1774

the requisite pH to precipitate the sizing material upon the fibrous material. The (<http://www.borax.com/detergents/intro.html>) reference is included to show that it is commonly known in the art to equate the various hydration states of disodium tetraborate with the term borax.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quinn, US 1,939,082 hereinafter known as Quinn as applied to claims 1-4 above.

The teachings of Quinn as in the above rejection are relied upon.

Quinn does not teach:

Quinn does not teach the further reduction of particle size of the suspended boron salt particles.

It would have been obvious to one of ordinary skill in the art to further process the boron salt slurry in order to obtain a slurry having rheological properties suitable for the process.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quinn, US 1,939,082 hereinafter known as Quinn as applied to claims 1-4 above, and further in view of Brown, US 1,860,134 hereinafter known as Brown.

The teachings of Quinn in the rejection above are relied upon.

Quinn teaches:

Page 3, lines 31-47, teach the density of the board can be varied by the proportion of asphalt incorporated.

Quinn does not teach:

Quinn does not teach a composite panel compliant with ASTM E-84 for fire retardance.

Brown teaches:

Page 1, line 99 – page 2, line 52, teaches a wood fibrous material further comprising an adhesive and boron salt as a fireproofing agent.

Page 2, lines 53 – 83, teach a composition resulting in a board with about 5 weight percent calcium borate. On the basis of boron alone this teaches the less than 1.75 percent boron as required by claim 9. Further, the passage teaches that one of ordinary skill in the art can change the amount of borate in the board to optimize the fire resistance of the board to a desired level, thus meeting claim 6.

It would have been obvious to one of ordinary skill in the art at the time of invention to optimize the borate concentration of Brown to provide the fiber board of Quinn with the necessary fireproofing to meet the ASTM E-84 test due to the teachings of Brown as to the selectability of the level of fire protection. Further, it is noted Brown teaches a borate concentration which results in a boron concentration of less than 1.75 weight percent of the board and further teaches this as a suitable level of fire protection.

It would have been obvious to one of ordinary skill in the art to select a combination of fibrous and filler material of the composite board of Quinn to obtain the density and internal strength of the boards as required by claims 7 and 8 due to the teachings of Quinn that the density of the board can be varied by changing the amount of asphalt incorporated therein. The density and thickness of the board are related to the strength of the board and it is within the level of one of ordinary skill to optimize the parameters to obtain a board of desired strength.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 3,245,870; US 4,130,538; US 6,511,561; US 20040041127.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is 571-272-6494. The examiner can normally be reached on Monday - Friday 6:00AM - 2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BAC

  
RENA DYE  
SUPERVISORY PATENT EXAMINER

*AU 1774*